Demand for Grants 2026-27 Analysis

Telecommunications

Highlights

- About 41% of the total budget allocation is towards revival plan for BSNL and MTNL. Both of these entities have continued to register losses.
- Funds allocated to Bharatnet have been underutilised since 2022-23. Usage of Bharatnet infrastructure also remains low. Of the one lakh gram panchayats where Wi-Fi hotspots were installed, 766 had active hotspots.
- Imports of telecom instruments in 2024-25 was 21% higher than the previous year. Domestic manufacturing faces challenges such as cost disabilities compared to other countries and limited component manufacturing.

The Department of Telecommunications under the Ministry of Communications is responsible for promotion, development, and regulation of the telecom sector.[1] The Department also administers several public sector undertakings such as BSNL and ITI limited that are involved in providing telecommunication services, consultancy, and equipment manufacturing.[1] As of 2025, India's total number of telecom subscriber base is about 1.2 billion, the second largest in the world.[2] The telecom sector is also ranked third in attracting FDI equity inflow in the country.[2] This note examines the allocation to the Department in 2026-27, trends in expenditure over the last few years, and discusses certain key issues in the sector.

Overview of finances

Allocation in 2026-27

The Department has been allocated Rs 73,991 crore, which is 1.4% of the total budget of the central government.[3] The allocation to the Department in 2026-27 is estimated to increase by 39% from the revised estimate of 2025-26 (see Table 1). The increase is mainly due to a higher capital infusion in BSNL (314% more than revised estimate). This is aimed to support technology upgradation and restructuring in the company.[3] It is part of the revival plan for BSNL. The central government has been implementing this revival plan to improve the financial health of BSNL and MTNL since 2019 (see next page for more details).[4]

In 2025-26, spending by the Department is estimated to be 34% lower than budgeted.[3] This is mainly due to the expected underutilisation of budgeted financial support to BSNL and MTNL.[3] At the revised stage, expenditure worth Rs 10,590 crore is estimated.[3] This is lower than the budget allocation (Rs 35,189 crore).[3] Further, utilisation of amount allocated for Bharatnet (75% lower than budgeted), capital outlay in north eastern area (74% lower), and defence spectrum (52% lower) is also expected to be limited.[3] Bharatnet project aims to provide broadband connectivity to all gram panchayats.[5]

Table 1: Allocation to the Department of Telecommunications (in Rs crore)

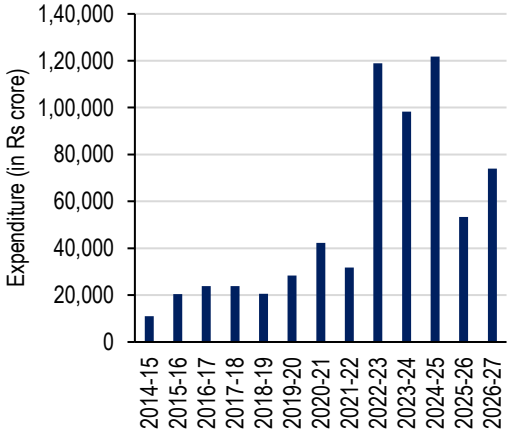
	2024-25 Actuals	2025-26 BE	2025-26 RE	2026-27 BE	% change (25-26 RE to 26-27 BE)
Revenue	47,881	29,220	29,482	26,716	-9%
Capital	73,846	51,785	23,916	47,275	98%
Total	**1,21,727**	**81,005**	**53,398**	**73,991**	**39%**

Note: BE: Budget Estimates; RE: Revised Estimates.
Sources: Demand No.13, Expenditure Budget, Union Budget 2026-27; PRS.

Trends in expenditure

Fund utilisation by the Department has varied over the years. Between 2014-15 and 2026-27, the expenditure of the Department is estimated to increase at an annualised growth rate of 17%. In 2021-22 and 2023-24, the expenditure by the Ministry was 62% and 11% lower than the respective budget expenditure estimates (see next page). In 2022-23, the expenditure was 41% higher than the budget estimates. This is mainly due to the carryover of allocations to revival plan for BSNL and MTNL to subsequent years (see next page for more details). A high variability in budget estimates and actual spending may indicate issues with budget forecasting and scheme implementation.

Figure 1: Expenditure has risen in recent years mainly due to revival plan for BSNL and MTNL



Note: Figures for 2025-26 as per revised estimates; figures for 2026-27 are as per budget estimates.
Sources: Union Budget documents of various years; PRS.

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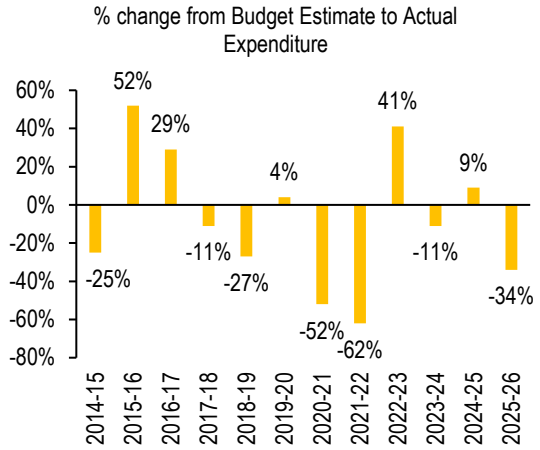
Figure 2: Fund utilisation by the Department has varied widely over the years



Note: Revised Estimates taken as actuals for 2025-26.
Sources: Union Budget documents of various years; PRS.

Key expenditure heads

In 2026-27, three items account for over 95% of the total allocation. The highest allocation is towards support for BSNL and MTNL (41%). Out of this, Rs 28,473 crore is towards capital infusion in BSNL. The second highest allocation is towards pensions (28%). This is for the pensionary benefits of department employees, including those absorbed in BSNL and MTNL. It is effective from April 2014.[3] The third highest is towards Bharatnet project with Rs 20,000 crore (27%). Allocation towards Bharatnet has seen an increase of 264% over the revised estimate of 2025-26. In 2025-26, the spending under this scheme is estimated to be 75% lower than budgeted.

Table 2: Key expenditure heads in 2026-27

Head	2024-25 Actual	2025-26 RE	2026-27 BE	% change (2025-26 to 2026-27)
Support to BSNL and MTNL	81,419	10,590	30,149	185%
Pension	18,225	19,685	21,064	7%
Bharatnet	3,995	5,500	20,000	264%
Compensation to TSPs	4,643	4,000	3,600	-10%
Defence Spectrum	446	706	975	38%

BE: Budget Estimates; RE: Revised Estimates. TSP: Telecom Service Providers.
Sources: Expenditure Budget, Union Budget 2026-27; PRS.

Key schemes and initiatives

Revival plan for BSNL and MTNL

BSNL and MTNL are PSUs under the Department of Telecommunications.[1] MTNL mainly provides telecom services in Mumbai and Delhi while BSNL provides these services in the rest of the country.[1] Between 2020-21 and 2024-25, roughly half of the budget of the Department has been spent on BSNL and MTNL. The revival plan aims to reduce the losses of these two PSUs.[4] Some of the reasons for losses over the years include: (i) debt burden, (ii) high employee cost, and (iii) lack/delay of 4G services (except on a limited basis in certain areas).[6] Under the revival plan for these two entities, support has been announced in three tranches (Table 3).[4,7,8] These involves support for purchase of spectrum, payment of AGR dues, and capital expenditure. The plan also seeks to reduce employee costs through the Voluntary Retirement Scheme (VRS), provide viability gap funding (VGF), and promote asset monetisation.[9] VGF is mainly intended to offset losses incurred in providing telecom services in rural areas.[9] Under VRS, about 93,000 out of 1.75 lakh employees of BSNL and MTNL had opted for the retirement scheme (as of 2023).[10]

The Committee on Public Undertakings (2024) noted that debt reduction in BSNL was largely achieved through the issuance of sovereign guaranteed bonds and repayment of high-cost loans using viability gap funding.[10] However, it noted some challenges, including the delay in the merger of MTNL with BSNL and incomplete spectrum allocation for Delhi and Mumbai.[10] Amidst a delayed merger, BSNL entered a service agreement with MTNL which became effective on January 1, 2025.[9] Under the agreement, BSNL has assumed responsibility for operating and maintaining MTNL's telecom services in Delhi and Mumbai.[9] Other issues in the revival measures relate to the incomplete transfer of the VGF to BSNL, delays in 4G rollout, and challenges in asset monetisation (see page 8).[9,10]

While there have been specific allocations for the revival plan every year, the utilisation has been very volatile (see Table 13 in Annexure). For a discussion on the performance of BSNL and MTNL (see page 8)

Table 3: Key components of revival plan as sanctioned by Union Cabinet

Components	Amount (in Rs crore)
2019 Revival Package	
Purchase of Spectrum	20,140
Voluntary Retirement Scheme	17,169
Sovereign Guarantee for Bonds	15,000
Support for payment of GST for Spectrum	3,674
2022 Revival Package	
Purchase of Spectrum	44,993
Sovereign Guarantee for Bonds	40,399
Support for Payment of AGR dues	33,404
Support for Capital Expenditure	22,471
2023 Revival Package	
Purchase of Spectrum	88,516
Miscellaneous	532

Sources: PIB Press Releases; PRS.

Bharatnet

Bharatnet project was launched in 2011 to provide affordable high-speed internet access to gram panchayats in the country.[5] The initial aim was to make about 2.5 lakh gram panchayats service ready by connecting them with optical fibre networks.[5] In July 2017, the implementation strategy was revised to also include last mile connectivity through Wi-Fi or any other suitable technology.[11] Further amendments to the project revised the targets to cover about 2.6 lakh gram panchayats.[5]

The project involves three implementation phases.[5] Phase I focused on laying Optical Fibre Cable (OFC) to connect one lakh gram panchayats.[5] This phase was completed in December 2017.[5] Phase II is still ongoing.[5] It focuses on expanding coverage to additional 1.5 lakh gram panchayats using optical fibres, radio, and satellite technologies.[5] It was originally supposed to be completed by December 2019.[12] Phase III is also ongoing and aims to integrate 5G technologies, increase bandwidth capacity, and ensure last-mile connectivity.[5]

In June 2021, the duration of the Bharatnet project was extended to 2025.[13] The scheme was also extended to cover all inhabited states and villages on a demand basis.[5,13] As of September 2025, out of 6.6 lakh villages in India, only two lakh villages have been covered under the Bharatnet project (31% covered).[14] The Standing Committee on Communication and Information technology (2025) noted the following challenges with the Bharatnet project: (i) difficult terrains, (ii) right of way issues, and (iii) difficulty in accessing left wing extremism affected areas[15]

Table 4: Status of Bharatnet project as of September 2025

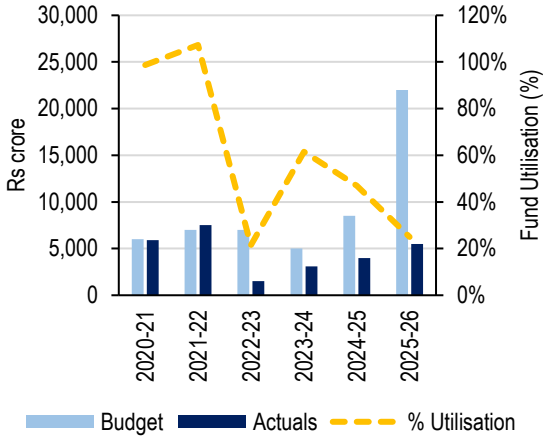
Parameter	Achievement	
	Number of gram panchayats	In %
OFC laid	2.18 lakh	83%
Wi-Fi Installed	1.04 lakh	39%
Wi-Fi operational	766	0.3%

Sources: Bharat Broadband Network Limited website, as accessed on January 15, 2026; PRS.

Low fund utilisation under Bharatnet

Between 2019-20 and 2024-25 (six years), on average, actual spending was 34% lower than the budget estimate. In 2023-24, against a budget allocation of Rs 5,000 crore, actual expenditure was Rs 3,076 crore (62% of the allocated amount). Further, in 2024-25, actual expenditure was Rs 6,500 crore against budgeted amount of Rs 8,500 crore.

Figure 3: Actual spending under Bharatnet has been lower than the allocation



Note: Revised estimate used as actuals for 2025-26.
Sources: Union Budget Documents of various years; PRS

Limited utilisation of the network

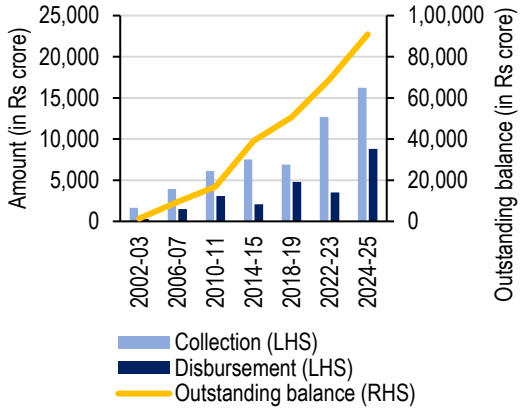
The utilisation of Bharatnet network is through leasing of bandwidth and dark fibre, Wi-Fi at public places, and Fibre to the Home (FTTH) connections at households, government institutions, and private insitutions.[15] The total number of FTTH connections targeted to be completed by March 2026 is 18 lakh.[15] As of January 15, 2026, about 14 lakh FTTH connections are commissioned.[16] Wi-Fi hotspots have been installed in about one lakh gram panchayats as of September 2025.[14] However, Wi-Fi hotspots are active in only 766 gram panchayats.[14] The Standing Committee on Communication and Information technology (2025) noted that usage of network remains suboptimal despite the availability of underlying infrastructure.[15]

Digital Bharat Nidhi

The Universal Service Obligation Fund (USOF) was established in 2002.[17] It was renamed to Digital Bharat Nidhi (DBN) in 2024.[17] It aims to provide financial support for the provision of telecom services in commercially unviable rural and remote areas of the country.[17] It also seeks to support research and development, and introduction of telecommunication services, technologies, and products.[18] The resources for the fund are raised through a Universal Access Levy, which is 5% of the adjusted gross revenue earned by all telecom service providers (except for value-added service providers like internet or voice mail providers).[19]

There are various schemes that are being funded through DBN.[20] This includes a scheme for mobile communication services in Left-Wing Extremism (LWE) affected areas, and a project for the Provision of 4G based mobile services at Border Out Posts (BOPs) of different border guarding forces and Border Intelligence Posts (BIPs) of IB.[20]

Figure 4: Under-utilisation of DBN funds (as of January 2026)



Source: Fund Status Dashboard, Digital Bharat Nidhi website, as accessed on January 26, 2026; PRS.

The fund utilisation of DBN over the years has been considerably lower than the amount credited to it. Between 2002-03 and 2024-25, a total of Rs 1.79 lakh crore has been credited to the fund.[21] Out of which, Rs 88,202 crore has been disbursed for various schemes (49% of the total amount).[21]

Scheme for mobile communication services in left wing extremism affected areas

The scheme for provisioning of mobile services at identified locations affected by LWE was approved in 2014.[1] The scheme has two phases. Phase-I focusses on providing mobile services of 2G technology in LWE affected states such as Jharkhand and Chhattisgarh.[15] This phase is being implemented by BSNL.[1] In 2022, a plan to upgrade the existing towers from 2G to 4G was also approved.[1] As of December 2024, 2,343 sites across identified states provide 2G services.[15] Out of these, only 297 sites have been upgraded for 4G services.[15]

Phase-II seeks to install 2,542 towers to provide 4G mobile services in the LWE affected states.[15] The revised scope for the total number of towers stands at 1,289.[15] The timeline for project completion was March 2023, which was subsequently extended to May 2025.[15] As of January 2026, 1,169 mobile towers have been installed.[16]

Comprehensive Telecom Development Plan for the North Eastern Regions

The Comprehensive Telecom Development Plan for the North Eastern Regions aims to provide mobile coverage to identified uncovered villages and areas along national highways in the north eastern region.[22] The towers are laid by private telecom operators.[15] As on September 9, 2024, 1,358 telecom towers were installed against a target of 2,004 telecom towers.[15] In states such as Tripura and Sikkim, the number of towers installed is less than 40% of the proposed number.[15] Key issues include: (i) forest and defence clearances, (ii) accessibility, and (iii) land record issues.[15]

Comprehensive Telecom Development Project for Islands

The Comprehensive Telecom Development Project for Islands aims to provide connectivity to Andaman and Nicobar Islands and Lakshadweep.[23] This connectivity is to be via Submarine Optical Fiber Cable and bandwidth augmentation to these islands.[23] Under the plan, 82 towers are to be set up for providing 4G mobile coverage in identified villages.[15] Further, 42 towers are to be set up for providing 4G services along NH-4 (National Highway-4) in Andaman and Nicobar Islands.[23] As of March 2025, 66 sites have been commissioned under this project (46 along NH-4 and 20 to provide 4G services in villages).[15]

The Submarine OFC Connectivity to Andaman and Nicobar Island Project aims to provide connectivity between Chennai and the Islands.[23] The connectivity is to be provided through a 2,313 km long submarine OFC.[23] As of February 12, 2026, 2,312 km of submarine OCF have been laid connecting eight islands within the Island group.[16]

PLI scheme for telecom sector

The Department of Telecommunications notified a Production Linked Incentive (PLI) scheme in February 2021 with a total projected outlay of Rs 12,195 crore.[24] It aims to boost domestic manufacturing of telecom and networking products in India.[25] The scheme provides incentive of 4% to 6% on the incremental sale of products manufactured in India, with certain conditions also applicable for minimum investment.[26] Under the scheme, the support is to be provided for a period of five years, from 2021-22 to 2025-26.[26] In June 2022, the scheme was amended to add a component for design-led manufacturing.[26]

A total of 42 companies has been granted approval under the scheme as of December 2022.[27] These companies have a committed investment of Rs 4,115 crore.[27] Generation of additional sales of Rs 2.45 lakh crore and additional employment of 44,000 is expected over five years.[27] As of November 2025, investments worth Rs 4,789 crore have been made, and sales of about one lakh crore, and employment of 29,446 have been produced.[28] Fund utilisation under PLI scheme has varied over the years.[29]

Table 5: Progress under the PLI Scheme for telecom sector as of November 2025

Category	Investment (Rs crore)	Sales (Rs crore)	Employment (in number)
Domestic MSMEs	511	9,185	5,676
Other Domestic Companies	2,719	32,399	17,591
International Companies	1,559	59,526	6,179
Total	**4,789**	**1,01,110**	**29,446**

Sources: Telecom PLI Dashboard, Udyami Mitra Portal, SIDBI, as accessed on January 26, 2026; PRS.

Table 6: Allocations under PLI scheme for telecom sector (in Rs crore)

Year	Budget	Actual	Fund utilisation
2022-23	528	39	7%
2023-24	800	292	37%
2024-25	1,806	844	47%
2025-26	1,966	1,944*	99%

Note: *For 2025-26, figure is as per the revised estimate.
Sources: Union budget for various years; PRS.

Network for defence services

The Network for Spectrum (NFS) project aims to enhance the communication capabilities of the defence services through a dedicated telecom network.[15] The project is being implemented by BSNL.[15] Under the project, network elements such as optical fibre cable and transmission equipment are to be set up across the country.[15] The project was unable to meet its target for completion by 2024-25.[15] The project has also encountered delays due to: (i) difficulty in receiving right of way permissions from multiple agencies, (ii) limited working season in certain regions such as Ladakh, Kashmir, and Arunachal Pradesh, and (iii) delays in manufacturing or installing of components.[15] Further, the fund utilisation under the project also remains low.[15]

Table 7: Low fund utilisation for defence network (in Rs crore)

Year	Budget	Actual	Fund utilisation
2021-22	5,200	3,070	59%
2022-23	1,961	1,368	70%
2023-24	2,158	1,093	51%
2024-25	-	446	-
2025-26	1,456	706*	48%

Note: *Revised Estimates taken as actuals for 2025-26.
Sources: Union budget for various years; PRS.

Non-Tax Revenue from Communication Services

Communication services are one of the major sources of non-tax revenue of the central government.[15] It includes proceeds from auction of spectrum and license fees, and spectrum usage charges.[15] In 2026-27, non-tax revenue from communication services is estimated to be Rs 1,17,050 crore, which is 18% of the estimated total non-tax revenue (Rs 6,66,228 crore).[30] Collections are estimated to decrease by 17% compared to the revised estimates of 2025-26.[30]

Table 8: Non-tax revenue from communication services (in Rs crore)

Year	Budget	Actual	% change from Budget to Actual	% change year-on year
2021-22	53,987	85,828	59%	89%
2022-23	52,806	64,835	23%	-24%
2023-24	89,469	90,659	1%	40%
2024-25	1,20,267	84,794	-29%	-6%
2025-26	82,443	1,40,828	71%	66%
2026-27	1,17,050	-	-	-17%

Note: Revised estimate for 2025-26 shown as actuals.
Sources: Union Budget Documents of various years; PRS.

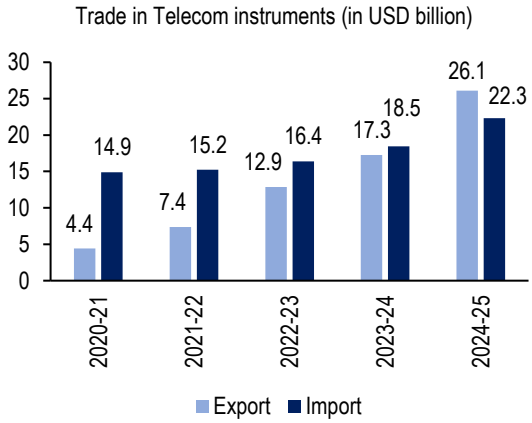
Issues for consideration

Import dependence for telecom instruments

India imported telecom instruments worth USD 22.3 billion in 2024-25, an increase of about 21% over the previous year.[31] In 2025-26, in the first eight months (April-November), telecom instruments worth USD 16.7 billion were imported, a 24% increase over the corresponding period in the previous year.[31]

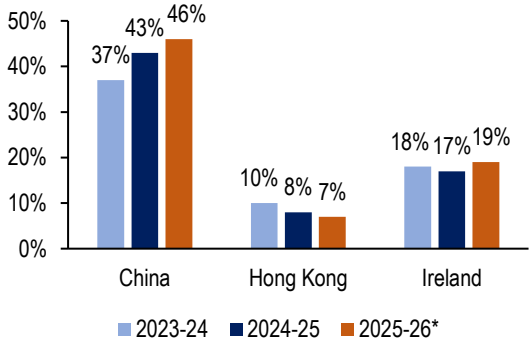
While there is a continued import dependence, exports of telecom instruments have also seen a significant rise in recent years. NITI Aayog (2024) noted that for telecom equipment such as 4G or 5G signal processing units, more than 40% are imported from China.[32] It noted that domestic manufacturing for complex telecom products are limited.[32] It also noted that India is heavily reliant on imports for components.[32] As of November 2025, China remains the top import source for telecom instruments.[31] In 2024-25, telecom imports from China increased by 42% over the previous year.[31]

Figure 5: Import and export of telecom instruments has continued to rise in recent years



Note: Data at the principal commodity level.
Sources: Trade Monitoring Dashboard, Ministry of Commerce website, as accessed on January 30, 2026; PRS.

Figure 6: About 42% of telecom instruments has been imported from China in the last three years



Note: *Data for 2025-26 is up to November 2025.
Sources: Trade Monitoring Dashboard, Ministry of Commerce website, as accessed on January 30, 2026; PRS.

The central government has taken certain steps in recent years for development of domestic manufacturing capacity. These steps include PLI scheme to promote domestic manufacturing, capex support, and interest subvention for manufacturing of telecom equipment and electronic goods.[33]

In 2024-25, over 90% of telecom instruments exported were in the form of smartphones.[31] With regard to imports, 84% of the telecom instruments imported included components used in network or transmission related equipments.[31] NITI Aayog (2024) noted that despite several incentives, participation in electronics manufacturing remains limited.[32] It noted that electronics manufacturing in India faces a cumulative cost disability of 10%-14% for assembly and 14%-18% for component manufacturing compared to China.[32] This includes disabilities due to: (i) tariffs and material costs (4%-6%), (ii) logistics costs (2%-3%), and (iii) high finance costs which add about 1%-2.5% for assembly and up to 4% for components.[32] It noted that China also has an advantage due to presence of local components and sub-assembly ecosystems.[32]

TRAI (2023) had suggested following some measures to promote telecom and networking equipment manufacturing.[33] Some of these measures include preferential market access for locally manufactured equipment, creation of a Network and Telecom Equipment Development Fund for the promotion of local manufacturing, and tax relief for investments in the development of intellectual property in India. NITI Aayog (2024) also recommended: (i) providing fiscal incentives for component manufacturing and building industrial infrastructure, (ii) rationalisation of tariffs and taxes, (iii) investment in skilling to address shortage of skill workers, and (iv) simplifying process of tech transfer for manufacturing of components.[32]

Augmentation of telecom network

The National Broadband Mission (NBM) aims to expand and improve broadband connectivity across India.[34] The Mission has multiple targets. First, it aimed to increase fiberisation of telecom towers to 70% in 2024-25.[34] As of July 2025, 46% of telecom towers were fiberised.[35] Fiberisation means connection of telecom towers through optical fiber. It allows for improved reliability, higher transmission capacity, and lower latency (time taken in data transfer). Second, it aimed to increase the OFC route length to 50 lakh kilometres by 2024-25. The OFC route length is about 42 lakh kilometres as of September 2025.[34,36]

To provide high broadband speed, the Department of Telecommunications had set a target for network latency. Network latency refers to the time delay it takes for data to travel from one point to another across a network.[37] Lower latency means less delay in data transmission.[37] The network latency (wireless) in India was targeted to be 25 millisecond for 2023-24.[29] The target for subsequent years was revised to 75 milliseconds.[15,29] As of March 2025, the revised target has been achieved.[15]

Further, the Department had set a target of increasing tower density to improve quality of service.[34] In 2019-20, there were a total of 5.65 lakh towers in the country, which were to be increased to 15 lakh by 2024-25.[34] As of January 2026, total number of towers in the country was 8.5 lakh.[38]

The Standing Committee on Communications and Information Technology (2024) noted that commercial viability and issues in accessing right of way were affecting the laying of new optical fiber.[29] The Right of Way Rules govern the approvals and coordination required for laying fiber. In September 2024, the central government notified new Rules on Right of Way.[39] These Rules aim to provide for a timebound process for accessing right of way.[40] It also seeks to promote sharing of fibre infrastructure across government and private entities.[40]

Rural-Urban divide in telecom connectivity

The telecom connectivity in India has increased over the years.[36] The overall tele-density (telephone connections per 100 people) in India in March 2014 was about 75% which increased to about 87% in September 2025.[36] However, this connectivity varies across states (see Table 11 in annexure). It also varies across rural and urban regions. As of September 2025, tele-density in urban areas was about 135% as compared to about 60% in rural areas.[41] Further, the total number of internet subscribers per 100 people in urban areas was 115%, higher than rural areas (47%).[41] In states such as Bihar and Jharkhand, tele-density in rural areas is about 45% and 48% respectively. This is lower than states such as Telangana and Tamil Nadu where tele-density is 85% and 70% in rural areas (Table 11).

The Committee on Public Undertakings (2025) noted some issues with rural connectivity.[42] First, the return on investments for telecom service providers is low in rural areas. Second, availability of power supply in these areas is poor. Third, there is a lack of a reliable transmission media for backhaul connectivity. Fourth, delays in forest or land clearance have been a hindrance. TRAI (2023) also noted poorer digital literacy and affordability issues as a hinderance for wider digital penetration.[43]

To address the rural-urban gap, the Department provides financial support through measures such as DBN and Telecom Technology Development Fund (TTDF).[36] TTDF aims to fund research and development of communication technologies suited to rural conditions.[36] The Committee on Public Undertakings (2025) observed structural difficulties in maintaining networks in rural areas.[42] It noted that the support for operational expenditure provided to telecom service providers from DBN is limited.[42] It recommended usage of low-maintenance

technologies and creation of a dedicated corpus under TTDF to support the development of rugged and low-cost equipment for rural deployment.[42]

Challenges in satellite-based internet services

Satellite internet is an emerging technology with the potential to provide connectivity from space to any location through satellites.[44] This makes it crucial for remote villages, border areas, and islands where terrestrial internet services are either difficult to reach or economically unviable.[44] The Department of Telecommunications regulates provision of satellite-based communication by granting authorisations under the Unified Licence (UL) Regime framework.[44] In 2020, the central government allowed private sector participation in space activities.[44] As of June 2025, more than ten satellite operators have shown interest and applied for authorisation to provide satellite-based capacities.[44] Three private operators have been granted UL with authorisations for providing the services (as of January 2026).[45]

The central government aims to harness satellite internet as a key driver of Digital India.[44] However, there are certain challenges associated with large scale deployment of satellites. First, satellite communications use specific frequency bands (spectrums) that serve as essential channels through which voice, data, and broadband signals are transmitted between earth and space.[44] As the number of satellites increases, the risk of signal interference increases.[46] Second, in order to offer lower latency and higher bandwidth, satellite service providers increasingly deploy large constellations of satellites in low earth orbit.[44,47] While this improves service quality, it also increases the risk of satellite collisions.[47] These collisions may not only disrupt internet service but also affect other satellite based critical systems used for navigation and defence-related communications. Third, satellite network is increasingly becoming vulnerable to cybersecurity threats such as signal jamming and spoofing.[47]

The Department of Telecommunications has recently sought reconsideration of TRAI's recommendations for satellite spectrum usage charge.[48] As of January 2026, the framework is yet to be finalised.

Limited deployment under PM-WANI

The National Digital Communication Policy, 2018, set a target of establishing one crore public Wi-Fi hotspots by 2022.[49] One of the measures to support the objective is the Prime Minister's Wi-Fi Access Network Interface (PM-WANI) scheme launched in December 2020.[50] The scheme allows shops and small establishments to set up public Wi-Fi access points by utilising services of existing telecom service providers. No licence or registration fee is charged from the shops and small establishments that establish such hotspots.[51] Users can access internet services by downloading a mobile application, authenticating themselves, and connecting to a PM-WANI hotspot nearby.[50]

As of February 2026, about 4.1 lakh Wi-Fi hotspots have been deployed under this scheme.[51] About 51% of these hotspots are located in Delhi.[51] Several states, particularly in the north-east have seen limited deployment of Wi-Fi hotspots (see Table 12 in annexure).[51] The Department of Telecommunications (2022) noted that high internet costs and expensive broadband connection agreements with telecom service providers are some of the key reasons for poor uptake of the scheme.[50] The Department of Telecommunication revised the framework in 2024 to address cost related challenges, including measures such as permitting usage of regular broadband (FTTH) connection.[52]

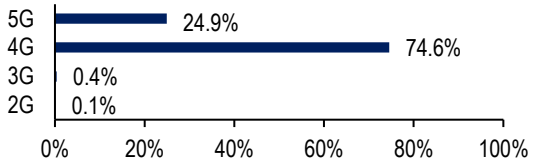
Limited adoption of 5G

5G services were launched in India in October 2022.[53] As of December 2025, 5G services have been rolled out in all states and union territories.[36] 85% of the population has access to 5G network in India.[36] However, only 25% of the total wireless data usage in the country was over 5G network in 2024-25.[54] The Standing Committee on Communications and Information Technology (2024) noted the following key challenges related to 5G usage in India: (i) limited use cases for 5G, and (ii) insufficient return on investment from 5G for service providers.[29]

Advantages of 5G include higher speed, greater reliability, and low latency.[29] However, the Standing Committee on Communications and Information Technology (2024) noted that the latter two 5G use cases, which were expected to be widely deployed, have not yet been realised.[29] The Department of Telecommunications has awarded 100 5G Use Case Labs to educational institutions across the country.[55] The initiative seeks to promote competencies and engagement in 5G technologies among students and start-up communities.[55]

In 2022, the central government had issued a new licence called Captive Non-Public Network (CNPN) licence for establishing private 5G networks.[56] TRAI observed that the uptake for CNPN has been limited.[56] As of June 2023, only two CNPN licences have been issued out of which one is NCRTC Limited which is implementing Delhi Meerut-Ghaziabad Rapid Rail project.

Figure 7: Share of network type in wireless data usage in 2024-25



Sources: Yearly Performance Indicators Report 2024-25, TRAI, July 8, 2025; PRS.

6G network in India

On March 22, 2023, the Bharat 6G Vision document was released.[57] The document aims to position India as the leading contributor for the design and deployment of 6G technology by 2030.[57] Some initiatives taken by the government to facilitate the development of 6G technology in the country include: (i) funding two testbeds for research and development and (ii) approval of 104 research proposals on 6G network ecosystems.[57] The Bharat 6G Alliance (B6GA) is another initiative that aims to drive 6G research and development in the country by bringing together startups, industry, and academia.[57]

Globally, 6G technology remains in its early stages of development.[58] The International Telecommunication Union (ITU), a UN agency is in the process of setting global 6G standards.[58] These standards are helpful to allow devices to function across borders and network suppliers.[58] As development of 6G progresses, some considerations for its adoption may include evaluation of infrastructure readiness, spectrum availability and allocation, and emerging network security challenges. In February 2024, the UK and USA, along with eight other nations, endorsed a joint statement on 6G security principles including using only "trusted" technology to maintain national security.[58]

Financial performance of BSNL and MTNL

BSNL and MTNL have been incurring losses in most quarters since 2009-10.[59] Between 2019-20 and 2025-26, the central government has estimated to spend a cumulative of Rs 2.2 lakh crore towards support to BSNL and MTNL (see Table 13 in annexure). Under the revival plan, both BSNL and MTNL have offered voluntary retirement scheme to their employees.[4] As of 2023, 93,000 out of 1.75 lakh employees of BSNL and MTNL had opted for the retirement scheme.[10] The reduction in salary bill has led to a lower overall expenditure (see Table 9 and Table 10). While losses have decreased, in 2024-25, BSNL's current ratio (ratio of current assets to current liabilities) stood at 4.14:1, against company-stated ideal ratio of 2:1.[9] The higher ratio may reflect high levels of short-term liquidity, however, it may also indicate potential underutilisation of resources in the company.

On the revenue side, MTNL has observed a consistent decline in income since 2017-18, whereas BSNL's income has grown at an annualised rate of 4% between 2019-20 and 2024-25. For both BSNL and MTNL, income in 2024-25 was lower than 2017-18 level. In the third quarter (October-December) of 2024-25, BSNL has booked a profit of Rs 262 crore.[60] This is the first instance of booking profit in a quarter since 2007.[61] In 2019, the government had proposed merging the two entities; however, this has not occurred due to: (i) unsustainable debt of MTNL and (ii) pending statutory dues.[62] In August 2025, MTNL defaulted in the payment of principal (instalment) and interest to multiple banks.[63] The total financial indebtedness of the company was Rs 34,842 crore.[63] This includes a bank loan of Rs 8,734 crore.[63]

Table 9: Financial performance of BSNL (in Rs crore)

Year	Income	Expenditure	Profit (+)/Loss (-)
2017-18	25,071	33,809	-8,738
2018-19	19,321	34,225	-14,904
2019-20	18,907	34,406	-15,499
2020-21	18,595	26,036	-7,441
2021-22	19,052	26,034	-6,982
2022-23	20,702	27,364	-6,662
2023-24	21,317	26,683	-5,366
2024-25	23,427	25,841	-2,414
2025-26 (till third quarter)	17,706	21,415	-3,709

Sources: Report of the Standing Committee on Communication and Information Technology on DFG of Department of Telecommunications for various years; Annual Reports and Financial Results of BSNL; PRS.

Table 10: Financial performance of MTNL (in Rs crore)

Year	Income	Expenditure	Profit (+)/Loss (-)
2017-18	3,116	6,090	-2,974
2018-19	2,606	5,997	-3,391
2019-20	2,227	5,923	-3,696
2020-21	1,873	4,333	-2,461
2021-22	1,778	4,379	-2,603
2022-23	1,474	4,385	-2,911
2023-24	1,301	4,604	-3,303
2024-25	1,307	4,631	-3,324
2025-26 (till third quarter)	608	3,407	-2,799

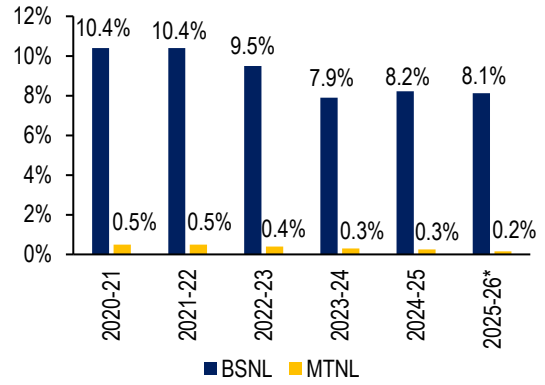
Sources: Report of the Standing Committee on Communication and Information Technology on DFG of Department of Telecommunications for various years; Annual Reports and Integrated financial results of MTNL; PRS.

CAG (2025) identified certain operational lapses that contributed to BSNL's revenue loss.[64] One of these was the non-deduction of licence fees by BSNL under its revenue-sharing arrangements.[64] Under BSNL's FTTH Open Policy, revenue from services provided through local franchisees was to be shared after deducting levies, including licence fees.[64] However, BSNL did not deduct the licence fee from payments made to partners.[64] The audit also pointed to wasteful expenditure due to procurement of higher-capacity underground cables that remained unused and incorrect billing for shared telecom.[64]

Market share

BSNL and MTNL saw a consistent decline in market share in terms of subscriber base between 2019-20 and 2023-24 (see Figure 8 on next page).[65] In 2024-25, BSNL's share increased to 8.2%, resulting from a net gain of 40 lakh new subscribers.[65] The market share of BSNL in urban areas in 2025-26 (as of September 2025) was 9.7%.[41] Even in the rural areas, its share during this period was 6.1%, behind some major private operators (see Table 14 in Annexure).[41]

Figure 8: Market share of BSNL and MTNL in terms of number of subscribers



*Data for 2025-26 as of September 2025.
Sources: Performance Indicator Reports, TRAI; PRS.

For MTNL, the market share continues to be low. The Department of Telecommunications (2024) observed that the current wireless telecom industry in Delhi and Mumbai (MTNL's service area) is driven by data.[29] As a result, voice services are no longer a revenue generating factor rather it is a bundled service of data.[29] Private operators in these two cities have rolled out 4G and 5G networks in order to retain their existing customers.[29] However, MTNL was not able to roll out these services at the same pace.[29] Some of the constraints faced by MTNL include financial limitations and untrained manpower.[29] As discussed earlier, BSNL operates and maintains MTNL's network from January 1, 2025. The rollout of 4G and 5G services by BSNL in these two cities were delayed in comparison to private operators.

Challenges in asset monetisation

BSNL owns multiple properties in different cities whose cumulative worth is estimated at Rs 67,000 crore.[66] The 2019 revival plan included monetisation of BSNL's assets to raise funds for debt repayment and meeting other operational requirements.[4] Monetisation involves sale or leasing of properties. Asset monetisation worth Rs 20,200 crore was targeted to be carried out between 2019-20 and 2022-23.[66] In October 2020, Department of Investment and Public Asset Management (DIPAM) decided that assets having value of Rs 100 crore and above would be monetised as per DIPAM framework.[66] For assets below Rs 100 crore, it would be monetised by BSNL or the Department of Telecommunications.[66] Land assets of about Rs 189 crore were monetised through sale or transfer between October 2019 and February 2023.[66] Further, none of the assets could be monetised under DIPAM framework till July 2022.[66] Besides sale, leasing of properties and renting out sparable space was identified for monetisation.[66] BSNL earned an amount of Rs 690 crore towards monetisation through leased assets during October 2019 to February 2023.[66]

Key reasons for delay in asset monetisation as noted by CAG (2025) included: (i) encroachment and deficiency in documentation for several assets and (ii) high reserve price for bids.[66] The monetisation targets for subsequent years were revised in 2022.[67] BSNL achieved the revised monetisation targets for 2023-24 and 2024-25.[67] However, certain challenges were noted in this monetisation process.[67] These include issues related to change of land use, property mutations and other statutory clearances.[67]

Annexure

Table 11: State-wise tele-density and internet subscribers as of September 2025

State or UT	Tele-density (%)			Internet subscribers per 100 population		
	Rural	Urban	Total	Rural	Urban	Total
Andaman and Nicobar	124%	148%	135%	104%	120%	111%
Andhra Pradesh	73%	109%	87%	55%	91%	69%
Arunachal Pradesh	71%	131%	86%	62%	105%	73%
Assam	57%	166%	75%	46%	124%	59%
Bihar	45%	136%	56%	35%	110%	44%
Chandigarh	-	-	152%	-	-	116%
Chhattisgarh	48%	141%	74%	42%	121%	64%
Dadra & Nagar Haveli and Damand & Diu	143%	50%	64%	133%	45%	59%
Delhi	-	-	182%	-	-	166%
Goa	189%	143%	153%	192%	141%	152%
Gujarat	74%	114%	94%	58%	101%	80%
Haryana	73%	182%	120%	59%	154%	100%
Himachal Pradesh	91%	415%	125%	64%	352%	94%
Jammu and Kashmir	66%	152%	93%	54%	129%	77%
Jharkhand	48%	108%	64%	39%	86%	52%
Karnataka	72%	158%	111%	60%	133%	93%
Kerala	269%	86%	121%	256%	68%	105%
Ladakh	161%	223%	181%	158%	114%	144%
Lakshadweep	-	-	112%	-	-	96%
Madhya Pradesh	43%	132%	69%	35%	117%	59%
Maharashtra	64%	143%	103%	53%	125%	88%
Manipur	42%	134%	72%	38%	124%	66%
Meghalaya	68%	144%	84%	60%	105%	70%
Mizoram	99%	127%	115%	87%	99%	94%
Nagaland	73%	67%	70%	64%	59%	61%
Odisha	65%	155%	83%	50%	117%	63%
Puducherry	73%	71%	72%	75%	66%	68%
Punjab	67%	169%	110%	56%	136%	90%
Rajasthan	57%	141%	80%	44%	123%	65%
Sikkim	152%	76%	111%	118%	70%	92%
Tamil Nadu	70%	133%	105%	55%	110%	85%
Telangana	85%	134%	109%	69%	125%	97%
Tripura	69%	99%	82%	53%	81%	65%
Uttar Pradesh	49%	136%	70%	38%	118%	57%
Uttarakhand	84%	145%	107%	65%	118%	85%
West Bengal	58%	120%	81%	44%	105%	67%
All-India	**60%**	**135%**	**87%**	**47%**	**115%**	**72%**

Note: Tele-density can be higher than 100% as a person may have more than one connection
Sources: The Indian Telecom Services Performance Indicators July-September 2025, TRAI; PRS.

Table 12: Wi-fi Hotspots installed under PM-WANI (as of February 13, 2026)

State or UT	Total Wi-Hi Hotspots
Andaman and Nicobar	275
Andhra Pradesh	6,076
Arunachal Pradesh	1,017
Assam	1,651
Bihar	4,086
Chandigarh	253
Chhattisgarh	2,839
Dadra & Nagar Haveli and Damand & Diu	-
Delhi	2,08,944
Goa	430
Gujarat	11,857
Haryana	18,474
Himachal Pradesh	936
Jammu and Kashmir	2,299
Jharkhand	1,042
Karnataka	21,834
Kerala	5,002
Ladakh	601
Lakshadweep	1
Madhya Pradesh	7,597
Maharashtra	34,240
Manipur	21
Meghalaya	256
Mizoram	3
Nagaland	78
Odisha	3,041
Puducherry	89
Punjab	3,713
Rajasthan	2,890
Sikkim	13
Tamil Nadu	7,504
Telangana	4,288
Tripura	310
Uttar Pradesh	51,590
Uttarakhand	980
West Bengal	4,206
All-India	**4,08,436**

Sources: PM WANI Central Registry Website, as accessed on February 13, 2026; PRS.

Table 13: Expenditure towards support to BSNL and MTNL (in Rs crore)

Head	2020-21		2021-22		2022-23		2023-24		2024-25		2025-26		2026
	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Actual	Budget	Revised	Budget
Capital Infusion in BSNL	14,115	0	14,115	0	44,720	26,386	52,937	56,785	82,916	71,940	33,758	6,885	28,473
Capital infusion in MTNL	6,295	0	6,295	0	0	0	0	0	0	0	0	0	0
Grants for payment of GST-BSNL	2,541	0	2,541	0	3,550	0	2,218	2,218	0	0	0	0	0
Grants for payment of GST-MTNL	1,133	0	1,133	0	0	0	0	0	0	0	0	0	0
Financial support to MTNL	372	383	383	384	384	384	384	383	312	302	0	0	0
Payment of principal amount of MTNL Bonds	0	0	0	0	0	0	0	865	3,669	3,669	0	0	0
Loans to MTNL on invocation of guarantees	0	0	0	0	0	0	0	0	156	1,151	0.01	1,829	0.01
Implementation of voluntary retirement scheme-BSNL/MTNL	3,295	3,028	3,000	3,473	3,300	3,465	2,671	2,127	0.01	4,248	0.01	676	476
Ex-gratia payment to employees taking VRS-BSNL/MTNL	9,889	11,162	0	0	0	0	0	0	0	0	0	0	0
Viability gap funding	0	0	0	0	0	16,189	1,740	1,200	1,200	1,200	1,200	1,200	1,200
Waiver of guarantee fee – BSNL/MTNL	0	0	0	0	0	42	174	239	556	170	231	0	0
Total	**37,640**	**14,573**	**27,467**	**3,857**	**51,954**	**46,466**	**60,124**	**63,817**	**88,809**	**82,680**	**35,189**	**10,590**	**30,149**

Sources: Demand No. 13, Department of Telecommunications, Expenditure Budget, Union Budget Documents of various years; PRS.

Table 14: Share of telecom service providers in subscriber base (as of September 2025)

Telecom service provider	Share of subscribers (in %)		
	Rural	Urban	Overall
Reliance Jio	40.3%	41.9%	41.2%
Bharti	35.4%	31.1%	33.0%
Vodafone Idea Limited	17.9%	15.6%	16.6%
BSNL	6.1%	9.7%	8.1%
Tata	0.3%	1.4%	0.9%
MTNL	0.0%	0.3%	0.2%
Others	0.1%	0.1%	0.1%

Sources: The Indian Telecom Services Performance Indicators July –September, 2025, TRAI; PRS.

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